REMARKS

Claims 1-30 are pending in the application.

Claims 15, 16, 21-23, 25 and 26 were rejected.

Claims 1-14 and 27-30 were allowed.

Claims 17-20 and 24 were objected to.

Claims 15 and 22 are amended herewith.

Claim 24 is cancelled herewith.

New claim 31 is added herewith.

I. 35 U.S.C. §102 Claim Rejections

In the Office Action, claims 15, 16, 21-23, 25 and 26 were rejected under 35 USC §102(b) as being anticipated by Kotikalapudi (EP 0 372 795). Applicants respectfully traverse that rejection and request reconsideration by the Examiner.

The invention disclosed and claimed in this application is directed to an improved methodology for transmission of high-speed data bursts via a traffic channel in a wireless communication system, particularly a system based on CDMA modulation and coding. As Applicants describe in the Specification, data transmission in a wireless communication system is conventionally sent in bursts, with the burst duration determined in respect to a fill level of an input buffer. However, as Applicants also explained, it is not uncommon for additional data packets from the same the user to become available in the input buffer prior to the ending of the data burst duration. It would, as Applicants teach, increase transmission efficiency if those later-arriving data packets from the common user could be included in the currently active data burst (which is not possible with methods of the prior art). To that end, the invention provides a methodology for accommodating later-arriving data packets by assigning a burst duration time that is larger than necessary to transmit the data available in the buffer at the sampling time. Thus, as additional data packets for the user enter the input data

buffer, they can be accommodated in the presently active data burst. To avoid unnecessarily wasting transmission resources in the event that such additional data packets do not become available in the input data buffer, the invention provides a sliding time interval, independent of, and shorter than the burst duration, which is periodically restarted during the course of a given burst duration. The restarting of that time interval occurs as a function of data packets being detected as available for transmission. Accordingly, should no packets be detected between the time a given time interval is restarted and the end of that interval, the invention operates to terminate the data burst (rather than wait for the extended burst duration to run its course).

The teaching of Kotikalapudi is focused on an entirely different idea. Specifically, the disclosure of Kotikalapudi is directed to a methodology for sharing a communications channel between voice and data signals, and where the channel is multiplexed using time division multiplexing.

In carrying out its methodology, Kotikalapudi establishes two intervals in a TDMA frame, a first interval dedicated to the transmission of digitized voice packets and the second interval dedicated to the transmission of data packets. Kotikalapudi characterizes those intervals as interval T1 for voice traffic and interval T2 for data traffic. In operation, the method of Kotikalapudi continuously transmits packets of a particular type (*e.g.*, voice packets) until the end of the interval assigned for that traffic type, and then begins transmitting traffic of the other type for the duration of its assigned interval. Kotikalapudi further discloses that an interval endpoint for a particular traffic type (T1 or T2) is determined by reference to a timer, which is started at the beginning of the relevant interval.

While Applicants believe that any attempt to draw an analogy between the teaching of Kotikalapudi and the invention here is rather strained, the only possible analog to the T1/T2 intervals of Kotikalapudi is to the burst duration of the invention – *i.e.*, that the T1 interval is an analog to a first data transmission burst and the T2 interval is an analog to a succeeding data transmission burst. Those T1 and T2 intervals are fixed for all instances of a given traffic type and clearly represent the durations in which the contents of an input buffer are expected to be transmitted. More important, the timer used to determine an end to a given interval is started at the beginning of the interval and not restarted until the beginning of a successor interval for traffic of the same type. Plainly nothing in the teaching of Kotikalapudi could reasonably be construed to show or suggest a sliding time interval which is restarted within the burst interval and which operates to cause a termination of the burst in the event additional packets are not available in the input buffer within such a restarted time interval.

Applicants note that Kotikalapudi's methodology contemplates the possibility of a T1 or T2 interval being ended earlier than the expiration of the timer measuring that interval in the event of the input buffer for the given traffic type being empty. But there is no timing function related to that interval-ending event. Rather, the methodology of Kotikalapudi looks to the input buffer following the transmission of each packet for the next packet to be transmitted (within the assigned "burst" duration). If such a check of the input buffer finds no packet available for transmission, the present "burst" interval (T1 or T2) is <u>immediately</u> ended and the assigned transmission interval for the other type of traffic (T2 or T1) is begun. Whether this action could be construed to achieve a similar end result to that of the method of the invention is immaterial. The process for achieving that result is completely dissimilar, and it is that process to which Applicants' claims are directed.

Rejected independent claim 15, which is directed to the idea of early termination for a burst in the absence of new data packets becoming available within a current restart interval, has been amended to more explicitly address the distinctions of the invention over the teaching of Kotikalapudi, as described above. As so amended, Applicants believe that this claim is clearly patentable over Kotikalapudi, and respectfully request withdrawal of the rejection of this claim.

Rejected independent claim 22 has been amended to incorporate the limitation of now-cancelled dependent claim 24. Inasmuch as dependent claim 24 was indicated as being allowable if rewritten in independent form, amended claim 22 is believed to also be allowable. Withdrawal of the rejection of that claim is respectfully requested.

Rejected dependent claim 16 includes the limitation "restarting the known time period commensurate with a detection of at least one additional data packet." The Office Action advises that such rejection is based on the teaching of Kotikalapudi at column 9, lines 30-32. The thrust of that teaching is that, upon the data transmission interval, T2, coming to an end (or the absence of a new data packet in the input buffer being available for transmission prior to the end of that interval), the methodology starts the voice interval, T1, and begins transmitting voice packets. As suggested above, this change from interval T2 to interval T1 is at best analogous to the end of a given data burst in Applicants' methodology and the beginning of a new burst. Plainly no intra-burst activity is contemplated by that Kotikalapudi teaching.

Moreover, even if one could construe the "known time period" of Applicants' claim as an analog of Kotikalapudi's T2 interval, nothing in the teaching of Kotikalapudi could reasonably be construed to suggest that such a period is restarted "commensurate with a

detection of at least one additional data packet." Rather, as Kotikalapudi clearly shows, the T1 interval is started (not restarted) because of the absence of an additional packet being detected, or because of the time-out of the T2 timer which clearly has nothing to do with packet detection.

Dependent claim 16 should be allowable solely because of its dependence from amended independent claim 15, which was shown above to be allowable over the art of record. Nonetheless, because Applicants believe that the limitation of dependent claim 16 is independently novel over the cited reference, they have introduced a new claim 31 combining that limitation with the limitations of parent claim 15. Allowance of new claim 31 is accordingly respectfully submitted.

II. Allowed and Allowable Subject Matter

Claims 1-14 and 27-30 were indicated as being allowed, and are re-presented here without change. Dependent claims 17-20 and 24 were objected to as being dependent on a rejected base claim, but were indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicants thank the Examiner for providing this indication of allowed and allowable claims.

In respect to allowable dependent claim 24, as indicated above, Applicants have amended the parent claim (claim 22) to incorporate the limitation of claim 24, and believe that amended claim 22 is now allowable. However, with respect of allowable dependent claims 17-20, Applicants believe that amended claim 15 and claim 16 depending therefrom, which serve as the base claims for these allowable dependent claims, are also allowable over the art of record, for the reasons indicated above. Accordingly, the Applicants have determined not to present any new independent claims directed to claims 17-20 at this time.

III. Conclusion

Having addressed the Examiner's rejection bases herein, it is believed that, in view of the preceding amendments and remarks, this application now stands in condition for allowance. Such allowance is respectfully requested.

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Please charge any fees due in respect to this amendment to Deposit Account No. 50-1944.

Respectfully submitted,

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Dated: November 26, 2003

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I hereby certify that this Response to Office Action is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313 on November 26, 2003.

By: _____
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